



PERFORMANCE BASED LOGISTICS OVERVIEW

Presented to the National Defense Industrial Association 25 October 2001



OUTLINE

- Definitions- What is Performance Based Logistics (PBL)?
- PBL Characteristics and Philosophy
- Operational Considerations
- Funding and Other Considerations
- > APU TLS Initiative
- "Take Away" Key Points



What Is Performance Based Logistics?

> PBL - A concept that proposes that all logistics support elements can be incorporated within the Performance –Based Business Environment (PBBE). PBL includes flexible sustainment, but also incorporates direct vendor delivery (DVD), technology insertion, reliability-centered maintenance (RCM), process improvement, business re-engineering, and public/private partnering and teaming. PBL can also be applied to fielded/legacy systems as well as new acquisitions. The basis of PBL is establishing logistics performance requirements and contractual incentives to mitigate obsolescence and lower the cost of ownership.

JACG Study Group Definition



PBL DEFINITIONS

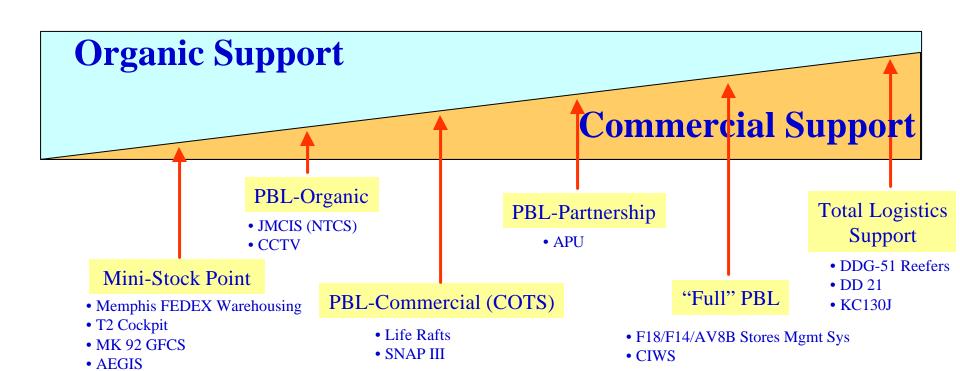
- ➤ PBL-Mini-Stock Point (PBL-MSP). Navy owns the inventory...contractor receives, stores, issues, and may also repair, the material... "MSP-Plus" includes a negotiated level of requirements determination (MIN/MAX).
- ➤ PBL-Organic (PBL-O). An arrangement with an organic activity (normally via MOA) to procure, repair, stock and issue material.
- ➤ PBL-Commercial (PBL-C). An arrangement where commercial items are supplied by a contractor. Customer requisitions are automatically routed through ITIMP directly to the contractor as a delivery order.
- ➤ PBL-Partnership (PBL-P). An arrangement between a contractor and Navy such that the Navy performs a portion of support required by and for the contractor. For example, the contractor may sub-contract the Navy to perform maintenance support at an organic depot. This can be highly beneficial when addressing Core maintenance issues, in that the Navy is able to retain Core capability while acting as a "sub" to the contractor.
- ➤ "Full" PBL. A contractual arrangement where the contractor manages (and may also own) the inventory, determines stockage levels, typically repairs NRFI material, and is required to meet specific performance metrics. Requisitions still flow through ICP, and ICP pays the contractor for performance but bills customers traditionally. Reliability improvements, technology insertion and reduced obsolescence may be some of the inherent benefits of a Full PBL. The contractor usually is given Class II ECP authority and in some cases may also have configuration control. Additionally, Logistics Engineering Change Proposal (LECP) arrangements will be considered a subset of this category if they contain supply support clauses that fall under the definition noted above.
- ➤ Total Logistics Support. A most robust form of PBL (typically referred to as Contractor Logistics Support (CLS)), where the contractor manages most or all facets of logistic support (i.e. ILS elements), including inventory levels, maintenance philosophy, training manuals, PHS&T, full configuration control, support equipment, etc.



PERFORMANCE BASED LOGISTICS

What's the PBL Universe?

Alternative logistics support solutions that encompass contractual arrangements from the Mini-Stock Point to Total Logistics Support (also known as Contractor Logistics Support (CLS))





PBL CHARACTERISTICS

- Win-Win for Fleet, NAVICP/NAVAIR, Contractor
- ➤ Contractor Performs Selected Government Functions, e.g. Supply Support, Repair, Repair Management (Best Commercial Practices), Repair Parts, Wholesale Sparing, PHS&T, etc.

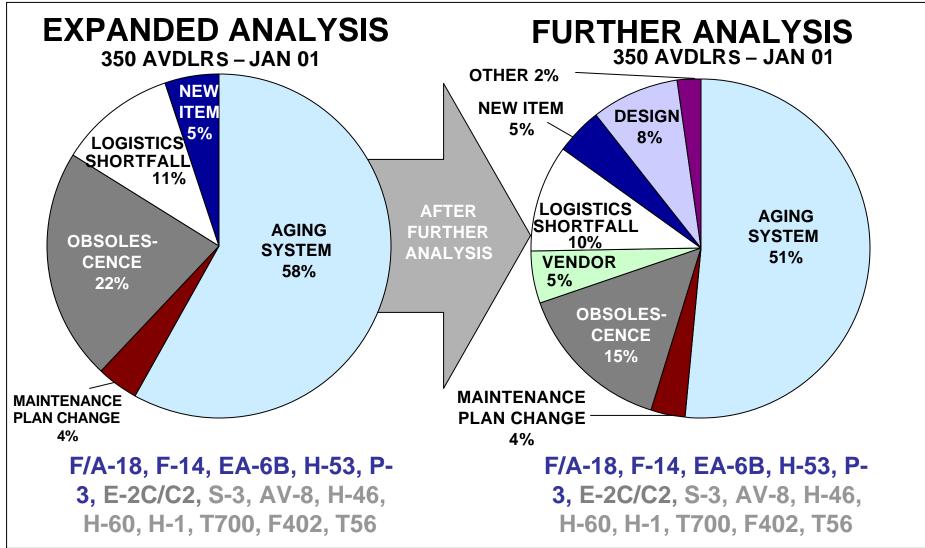
Typically:

- Contractor Guarantees Availability and Reliability Improvements
- Contractor is Given More Flexibility and Control in Configuration Management
- Fixed Price Contract With Incentives to Improve Reliability and Lower BCMs
- Business Case Analysis Shows Life Cycle Costs Savings



AVDLR COST GROWTH DRIVERS







A CHANGE IN PHILOSOPHY

PBL: New Supplier Roles

Warehousing

Requirements Determination

Repair/Overhaul/Replace Decision **Transportation**

Guaranteed Availability

Consumable Piece Parts

Warranties

Configuration Management

Obsolescence Management

Technology Insertion

Results

Lower Response Time

Improved Reliability

Lower Cost of Ownership

Reduced Government Oversight

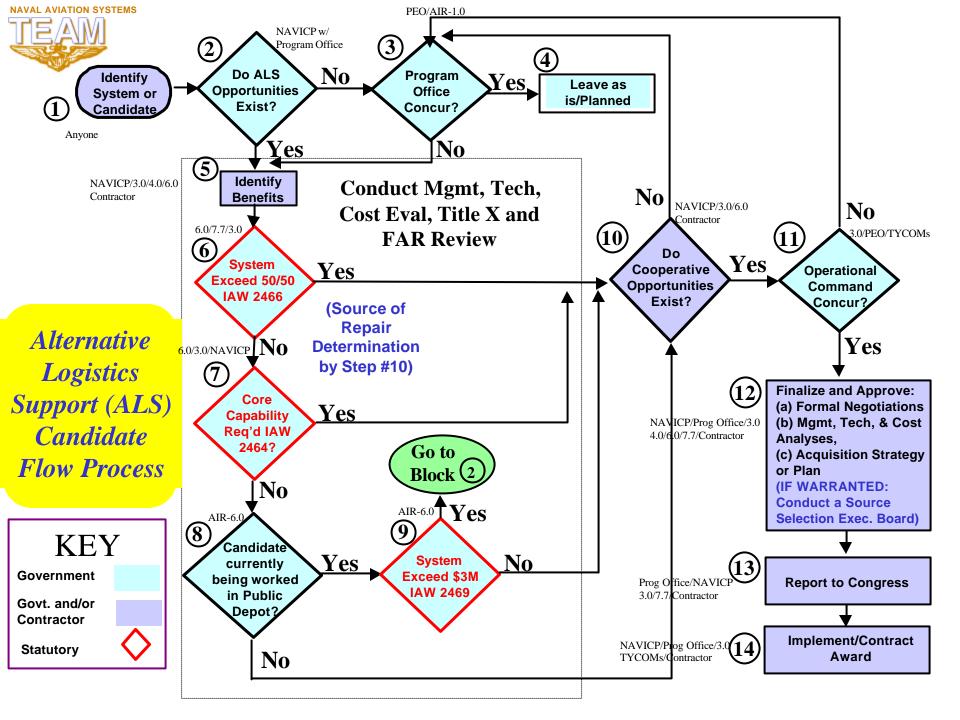
NAVAL AVIATION SYSTEMS

INSTRUCTION HIGHLIGHTS

> POLICY:

"Evaluate, Implement, and Assess Alternative/Non-Traditional Logistics Support Proposals."

- Defines the Critical Steps Needed to Implement a PBL:
 - ✓ Opportunity Index
 - ✓ Conduct TEAM Review
 - ✓ Title 10 (CORE) Considerations
 - ✓ Business Case Analysis
 - ✓ Formal Negotiations/Acquisition Strategy
 - ✓ Report To Congress





PBL INITIATIVES CANDIDATE IDENTIFICATION

- ➤ Identification of Attractive PBL Candidate Systems Can Come From a Number of Sources. These Include:
 - ✓ Fleet Customers
 - ✓ Program Offices
 - Navy Logistics Personnel
 - ✓ Navy Engineering Activities
 - ✓ Navy Repair Depots
 - ✓ Industry
 - ✓ NAVICP PBL Opportunity Index



OPPORTUNITY INDEX

- ➤ NAVICP Tool to Categorize and Prioritize Weapon Systems to Identify Those That Represent the Most Attractive Candidates for PBLs
- NAVICP Candidate Selection Process based on Repair Cost, Reliability and Supply Support Availability
- Generally, PBL Candidates Will be
 - ✓ Fleet AVDLR Cost Drivers
 - ✓ Items With Supply Support Problems
 - ✓ Items With Low Reliability



LOOKING AT THE DETAILS... CANDIDATE SELECTION

Opportunity Index

0.230

0.091

FA-18 System PBL Opportunity Index										
wuc	NOMENCLATURE	FLTHRS	TOTAL WUC COST	Reliability Factor	Support Ratio	DCI	RI	SI	OI	
742G	APG65(V) () Radar Set	287318	\$20,605,538	0.009	0.253	0.930	1.000	0.301	0.846	
74D9	AAS38 () Detecting Set	287063	\$22,154,970	0.016	0.155	1.000	0.563	0.185	0.812	
74B2	APG73 Radar Set	278898	\$10,729,028	0.111	0.170	0.484	0.081	0.202	0.382	
73X3	Bomb Nav Associated Equipment (Contd)	287221	\$9,118,696	0.046	0.029	0.412	0.196	0.035	0.323	
13C1	Landing System	287318	\$3,231,151	0.018	0.642	0.146	0.500	0.764	0.292	
74Q2	AAR50 Nav Infrared Receiving Set	278898	\$4,807,159	0.518	0.615	0.217	0.017	0.732	0.264	
1431	Horizontal Stabilizer System	287318	\$7,737,919	0.101	0.018	0.349	0.089	0.021	0.261	
1111	Forward Fuselage Section	287055	\$5,413,296	0.129	0.182	0.244	0.070	0.217	0.214	
13A1	Gear System	287213	\$2,936,314	0.092	0.533	0.133	0.098	0.635	0.203	
13C2	Landing Gear System	287318	\$2,297,655	0.022	0.316	0.104	0.409	0.376	0.190	

\$5.096.756

• O/I index lists WUCs in priority order from 1.0 (best candidate) to 0.0

 Depot Costs along with Reliability (MFHBF) and Supportability (BB/Demand ratio) factors are indexed to form DCI, RI, and SI

287318

• DCI, RI, and SI are weighted (70%, 15%, 15%) and summed to form the O/I Index



1461 Trailing Edge Flap System

1. Prioritized listing of systems by 4 digit Work Unit Code

0.073 0.108 0.188

- 2. NIIN level listing containing cost, reliability and customer support data
- 3. Cost-Performance Matrix



TITLE 10 US CODE

➤ Sec 2464 - Core Logistics Capabilities

✓ DOD to Maintain a Core Logistics Capability That Is Governmentowned and Government-operated (Including Government Personnel and Government-owned and Operated Equipment and Facilities).

>Sec 2466 - 50/50

✓ Allows No More Than 50% of the <u>Funds</u> Made Available in a Given Fiscal Year to a Military Department for Depot-level Maintenance and Repair Workload to Be Used to Contract for Performance by Non-federal Government Personnel.

>Sec 2469 - \$3.0M

✓ A Public-Private Competition Is Required to Move Depot-level Workload From an Organic Depot (Over \$3M Annually) to the Private Sector.



BUSINESS CASE ANALYSIS

- NAVAIR Guidance/Process For Cost Comparisons is Provided by Maintenance Trade Cost Guidebook
- Developed by AIR 4.2
- BCA Characteristics Include:
 - ✓ Comparing a Baseline (No Changes) Versus Alternative Courses of Action
 - ✓ Developing a Technical Approach, Schedule, and Resource Requirements Needed to Implement Change
 - ✓ Identifying ALL Costs Associated with Implementation of Change
 - ✓ Estimating a Return On Investment and Other Non-Cost Benefits (i.e. Increased Readiness, Safety, etc) Over a Specified Time Period



BUSINESS CASE ANALYSIS

- NAVICP PBL BCA Focus is on the NWCF
- ➤ NAVICP NWCF Business Rule— Break Even or Better With Other Benefits (Increased Availability/Reliability, etc.)
- Proposals For PBL Initiatives Largely Succeed or Fail Based on Quality of BCA
- Maintenance Trade Cost Guidebook Available for Download at:

www.nalda.navy.mil/3.6/coo/mtcg.doc



PBL DEVELOPMENT PROCESS

- Identify
- Quantify
- Capture

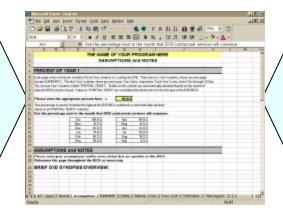
Business Case Analysis

Depot Repair Costs

Procurement Costs

ICP Ops Cost

PBL Administrative



BCA Updated Throughout Life of Program

Fleet Labor

Fleet Material Costs

Warehousing

Transportation

Engineering & Support



OPERATIONAL CONSIDERATIONS

- ➤ The Effect that the PBL Initiative Will Have on Fleet Maintenance & Supply Practices Must be Addressed:
- Maintenance Planning
 - Levels & Source of Maintenance
 - How Maintenance is Performed
 - Changes to Plans, SM&R Codes



OPERATIONAL CONSIDERATIONS (Continued)

- Manpower & Personnel
 - Effect on Requirements
 - Effect on Maintenance Man Hours
 - Skill Levels/Mixes

- ✓ Supply Support
 - Asset Reporting Requirements
 - Requisitioning
 - Availability & Reliability Commitment



FUNDING CONSIDERATIONS

> TODAY:

- ✓PBL Contracts May Require Funding From Multiple Appropriations.
- ✓ Multiple Appropriations Create Inefficiencies In Contracts-Less Contractor Flexibility.
- ✓ No Approval to Merge Multiple Appropriations Into One Single Line Of Accounting.

> FUTURE:

- ✓ EARLY Identification of Funding Sources, Cost Avoidances and Efficiencies Gained By Merging Funds.
- ✓ EARLY OPNAV Sponsor Buy-In (Before POM)
- ✓ Congressional Approval to Merge Funding.
- √Single Line of Accounting- Requires Financial Reform.



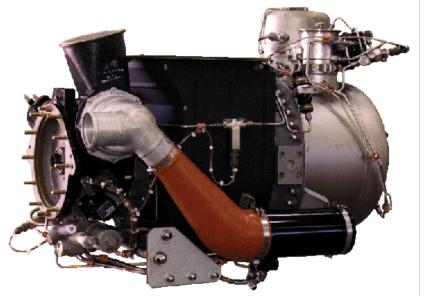
FUNDING & OTHER CONSIDERATIONS

- Funding Source and Strategy:
 - Navy Working Capital Fund
 - Direct FHP (OPNAV and OSD Approval)
 - ✓ FHP Funding from TYCOMs
 - ✓ APN, PRL, RDT&E (CIP), Depot O&MN (1A/5A), etc.
- FMS Impact
- Contract Strategy
 - ✓ Multi-Year Procurement
 - ✓ Long Term Commitment
 - Contract Type With Incentives
 - ✓ Alpha Contracting (if Non-Competitive)
- Degree of CM Authority Delegated to the Contractor



AUXILIARY POWER UNIT TLS

- ➤ Provides Support for APUs Used on the C-2, F/A-18, S-3 and P-3 Aircraft
- Navy's First Public / Private Partnership
 - ✓ NADEP Cherry Point... Touch Labor
 - ✓ Honeywell... Program Management
- ➤ 10 Year Performance Based Contract, Firm Fixed Price (5 Year Base & 5 One-year Incentive Terms)
- > Reliability Increase Guarantees
 - ✓ 45% for F/A-18
 - √25% for S-3
 - √15% for C-2
 - √300% for P-3
- Delivery Guarantees... 2 Days (IPG 1)
- Obsolescence Management
- Product Support Engineering & Tech Reps
- Surge Capability... 120% of Annual Flight Hours





AUXILIARY POWER UNIT TLS

- NAVICP Funds the Contract Exclusively With Navy Working Capital Fund
- 10 Year, Firm Fixed Price by the Flight Hour Commercial (FAR Part 12) Contract
- Incremental Payment Adjustments Are Made If the Annual Availability Is Not Achieved
- A Flat Payment Adjustment Is Made If the Annual Reliability Is Not Met
- Gain Share Provision If Reliability Guarantees Exceeded by 25%

Contract Priced Using All Inclusive Fixed Price
Per Navy Flight Hour



APU TLS AVDLR PRICING

- Traditional Pricing:
 - ✓ Prices Developed Based on Most Recent Procurement and Repair Costs Plus Cost Recovery Rate (Surcharge)
 - ✓ Prices Subject to Mid Year Changes (F404 HPT, HPC Rotors in FY00)
- "Price by the Flight Hour" Pricing:
 - Contractor Does Not Individually Price Each Item
 - ✓ Prices Are Developed Based on Total Contract Cost
 - ✓ Maintenance Plan Changes Will Not Increase Costs
 - ✓ Contract Cost Does Not Increase With Higher Rate of BCMs
 - ✓ Cost Recovery Rate Based on Contract (PBL, Lowest of 3 Tiers)



TLS PERFORMANCE METRICS

- Enhanced Availability- CONUS: Routine Requisitions Delivered in 7 Days, IPG 1 Requisitions Delivered Within 48 Hours; OCONUS: All Requisitions Delivered in 96 Hours
- Shipping to All CONUS Sites & Overseas/ OCONUS Locations, 24 Hours/ Day and 365 Days/ Year
- Increased Reliability- Guaranteed
- Increase Under TLS:

```
    ✓S-3
    ✓P-3
    ✓F/A-18
    ✓C-2
    25%
    MFHBUR guarantee + kits
    45%
    15%
```



I LEVEL REPAIR

- ➤ TLS Included the Transition of I-level First and Second Degree Repair to Depot
- ➤ Ship Board Sites Were Not Affected
- Retention of I Level Third Degree Allows for
 - ✓APU Checks and Tests, Eliminate Returns Due to No Cause Found
 - ✓ Removal and Replacement of External Components (IGV Actuator, Fuel Control, Etc)
- ➤ Transition to Depot of I1 & I2 Shifts Removal of Internal APU Components to Depot



CONFIGURATION MANAGEMENT

- ➤ CLASS I: Goal to Approve Within 30 Days of Submission
 - ✓ Changes Affecting: Performance, Maintainability, Survivability, Weight, Balance, Moment of Inertia, Interface Characteristics, Electromagnetic Characteristics, Safety; Or Resulting in Increased Acquisition or Life Cycle Costs to the Government.
 - ✓ Honeywell will Prepare and Submit an ECP.
 - ✓ ECP Will be Offered to both TLS and Non TLS FMS
- ➤ Class II: Submitted to APU TLS Navy Customer Satisfaction Board Representative.
 - √ Changes Impacting None of the Class I Factors.
 - ✓ Honeywell will Prepare and Submit a Change Request/Document Revision Notice for CSB approval and Sign-off Within Five Business Days.



TECHNICAL PUBLICATIONS

- Honeywell is CFA for APU Intermediate Level and Depot Level Manuals.
- Honeywell Will Update I and D Level Manuals and Provide Funding for P&D of Page Changes that Result from TLS Reliability Improvements.
- Honeywell Will Coordinate with NATEC to Provide Source Data for Any ECP That Drives O Level Changes.



APU TLS SUMMARY

>APU TLS provides:

- ✓ Reduction in AVDLR Charges to the Fleet
- ✓ Priced by the Flight Hour- No Surprises in AVDLR Expenditures
- Guaranteed Availability
- Guaranteed Reliability
- Caterpillar Logistics Management
- ✓ Fleet Support Engineers
- ✓ Total Asset Visibility
- ➤ Will Expand to Include F/A-18E/F, F/A-18 FMS, C-130, H-60, With Potential for More
 - ✓ Will Lower Unit Cost for All Customers



PBL BENEFITS TO THE FLEET

- PBLs Help to Achieve CNO Goals
 - ✓ Manpower- Increased Availability and Reliability Will Lower MMH/CANNs, Enhancing Fleet Quality of Life and Morale
 - ✓ Readiness- Availability Commitment at High Percentage
 - ✓ Future Readiness- Availability Commitment/Reliability
 Growth
 - ✓ Quality of Service- Lower MMH, Increased Parts Availability, Premium Transportation and Field Reps for Assistance
 - ✓ Alignment- Multi-Organizational/Multi-Competency IPT Including OEM/Contractors
- Lower Life Cycle Costs
- Improves Readiness, FMC & MC Rates



"TAKE AWAY" KEY POINTS

- ➤ TEAM Approach is Essential; Coordination/ Dialogue Required *Up Front and Early*.
- ➤ All Aspects (e.g., Title X Issues, Business Case Analysis, Operational Considerations, FMS Impact) Need to be Identified and Worked as One TEAM.
- ➤ TEAM Approach Will Generate a Viable Product With Potential For Faster Implementation.
- GOAL: Transparent to the Fleet Maintainer/User



Q & A FOLLOW ON DISCUSSION



BACK UP



THINGS TO CONSIDER

- PBL Checklist
- Opportunity Index
- > Title 10
- > BCA
- All Logistics Elements Impact
- Transparency to the Fleet
- Funding Strategy/Source
- FMS Impact
- Contract Types



AVDLR COST SUMMARY

- 80% OF GROWTH CAUSED BY AGE & OBSOLESCENCE
- COMPONENTS & ENGINES DRIVE COST
- AIRFRAMES INVESTMENT SAFETY RELATED & DRIVES FLEET LABOR AND DEPOT COST
- LITTLE OR NO ANALYSIS OF 42% OF AVDLR ITEMS DUE TO PRL FUNDING LIMITATIONS
- COST REDUCTION INITIATIVES INVESTMENT INSUFFICIENT TO FLATTEN FHP COST GROWTH
- THERE IS A PROCESS FOR DECISIONS WITH BROAD PARTICIPATION



SAMPLE EFFECT ON FHP OF PRICE CHANGE

FY00 Net Price (Oct-May) (Jun-Sep)

Component A \$81,920 \$93,180

Component B \$98,740 \$122,500

Component C \$20,880 \$49,800

Component	Price Increase	QtrDmd	<u>3 Mo</u>	<u>4 Mo</u>	<u> 12 Mo</u>
Α	\$11,260	95	1.070M	1.430M	4.280M
В	\$23,760	48	1.140M	1.521M	4.562M
С	\$28,920	60	1.735M	2.313M	6.941M

Totals: \$3.945M **\$5.264M** \$15.783M

\$5.3M in FHP Cost Escalation in FY00 for the Repair Price Adjustment

Aviation Performance Based Logistics Initiatives

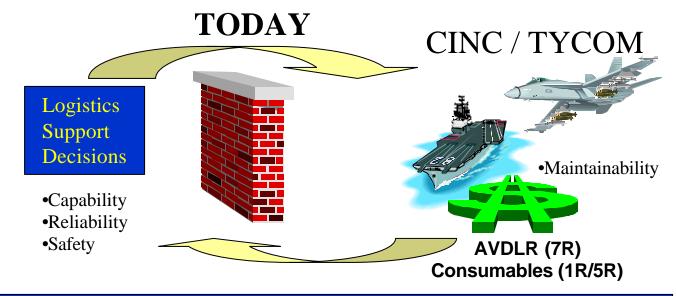
Aviation Performance Based Logistics initiatives										
IWST F-18 Commor H-46 P-3 SE Engines Commor T-2 H-60 Commor F-18/F-1 Commor EA-6B SE SE Multiple SE SE V-22 SE SE H-53 H-53 H-53 H-53 H-2 E-2 F-18 Commor F-14 SE V-22 SE	Awarded	WST	FIRST SMUG APU HUD/DDI GCU CVRS (Plus) DFCS FMC APG-71 HUD GRIIM RepR LG Piece Parts EP-3J Mod APS-137B Attitude Indicator H-1 Generator H-1 THCDP Comm. Bit and Pi Sale of A/C Parts 10-item PBL AVIONICS H-60 FLIR 17 Item PBL DEU DMS Flat Panel Swashplate FYO2 and PBL ALQ-126B GPWS AMC&D ARC-159	EAD Apr-01 Apr-01 Sep-01 Sep-01 Sep-01 Sep-01 Sep-01 Mar-01 Jul-01 Aug-01 Mar-01 Mar-01 Jul-01 Aug-01 Aug-01 Jul-01 Aug-01 Jul-01 Jun-01	M-H-H-H-S-S-S-S-S-S-S-S-S-S-S-S-S-S-S-S-	ST	HNVS FLIR Rescue Houst Main Blades MRH Damper OK-497/645 AYK-23 Flight Computer Actuator Flight Servos Ailerons AMAD ECS Valve Actuators Fuel Cells LEF Servo TEF Servo HUD GTS GINA LST NAVFLIR ADAC RSTS CCTVS ASQ-197 Wheels/Brakes mproved IFF MFCDU APS-138 PTID GTWT ESM NP2000 Prop VCS ANVALR-73 APU Aircraft F404 Portal	EAD Oct-01 FY02 FY02 FY02 FY02 FY02 FY02 FY02 FY02		
EA-6B Commor SE E-2	EOTS Jan-01 Main Wheels Feb-01			FY02 FY02 FY02 FY02 FY02 FY02 Nov-01 Nov-01 Dec-01 Dec-01 FY02 FY03 FY03 FY03 FY03 FY03 FY03 FY03 FY03	En E	ngines Fingines Fingi	F404 Portal F402 DECU F402 Thermocouple F404 A/B Control F404-402 Fuel Control F404-400 Fuel Control F58 Fuel Control F64 Fuel Control F64-416 Control F64-419 Control F634 Fuel Control FF34 Fuel Control FF34 Fuel Control F84 Fuel Control F84 Fuel Control F84-419 Control	FY02 FY02/03 FY02/03 FY02/03 FY02/03		



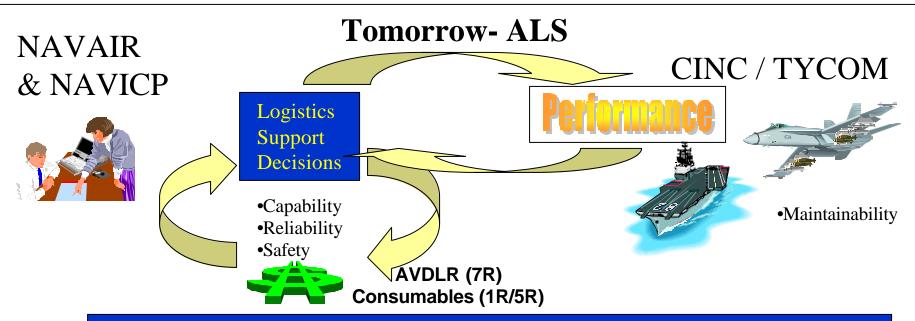
AVDLR AND CONSUMABLE FUNDING

NAVAIR & NAVICP





NAVAIR Makes The Decision And The Fleet Lives With The Results



ALS Defines Process / Makes Decisions - Fleet Gets Performance

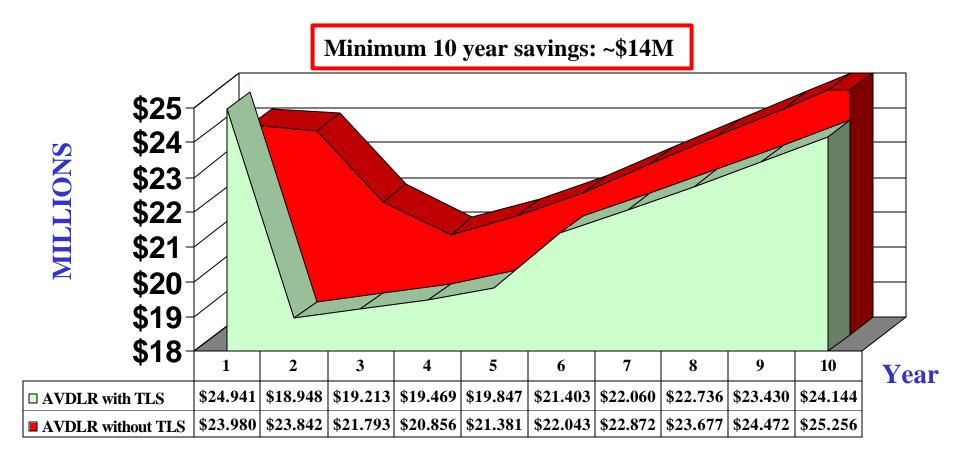


	ATTACI	HMENT II -	CONTINUE	<u>D</u>							
SCHEDULE C: PHASE	2 PRICE B	Y FLIGHT H	IOUR RATE	ES							
F/A-18		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Rate For Flt Hours 120,000	Thru	\$23.13	\$20.42	\$21.01	\$21.56	\$22.20	\$26.61	\$27.40	\$28.22	\$29.07	\$29.95
Rate For Flt Hours 12 Year Total	20,001 to	\$23.13	\$23.75	\$24.43	\$25.07	\$25.82	\$26.61	\$27.40	\$28.22	\$29.07	\$29.95
P-3		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Rate For Flt Hours 60,000	Thru	\$44.21	\$39.84	\$40.99	\$42.06	\$43.32	\$50.85	\$52.37	\$53.94	\$55.56	\$57.23
Rate For Flt Hours 6 Year Total	60,001 to	\$44.21	\$45.38	\$46.69	\$47.91	\$49.34	\$50.85	\$52.37	\$53.94	\$55.56	\$57.23
S-3		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Rate For Flt Hours 22,500	Thru	\$112.27	\$94.46	\$97.18	\$99.73	\$102.70	\$129.14	\$132.99	\$136.98	\$141.10	\$145.35
Rate For Flt Hours 22,501 to Year Total		\$112.27	\$115.25	\$118.57	\$121.68	\$125.31	\$129.14	\$132.99	\$136.98	\$141.10	\$145.35
C-2		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Rate For All Flight Hours		\$66.86	\$68.63	\$70.61	\$72.46	\$74.62	\$76.90	\$79.20	\$81.57	\$84.03	\$86.55



TLS AVDLR Cost Comparison

All Aircraft Programs





What Is Performance Based Logistics?

➤ PBL — A Single Supplier Provides Material to Meet a Customer's Requirements Without the Intervention of, or Need for Organic Inventory Managers or Intervening Storage, Material Handling, and Transportation Systems While Providing Increased Product Availability, Reliability, Technology Insertion, and Obsolescence Management at a Lower Total Cost to the Fleet Customer and the Navy.

NAVICP Definition



ROAD AHEAD

- > FMS
- Funding Strategy Resolution and Process Definition
- ALS Team/AIR-6.1/NAVICP Summits
- Adaptation to Changes in Policy/Law
- Updated ALS Process and Instruction



AIRFRAME AVDLR COST GROWTH DRIVERS BY MAJOR SYSTEMS

